



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/612,022	07/03/2003	Tatsuhiko Obayashi	012777-052	5836

7590 11/15/2005

BURNS, DOANE, SWECKER & MATHIS, L.L.P.  
P.O. Box 1404  
Alexandria, VA 22313-1404

EXAMINER
----------

FEELY, MICHAEL J

ART UNIT	PAPER NUMBER
----------	--------------

1712

DATE MAILED: 11/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/612,022

Applicant(s)

OBAYASHI ET AL.

Examiner

Michael J. Feely

Art Unit

1712

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 24 August 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-5,7,8 and 10-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5,7,8 and 10-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

Art Unit: 1712

## DETAILED ACTION

### *Pending Claims*

Claims 1-5, 7, 8, and 10-17 are pending.

### *Priority*

1. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Japan on July 5, 2002, July 19, 2002, and November 1, 2002. Copies of these documents have been received.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the

Art Unit: 1712

reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. The rejection of claims 6 and 9 under 35 U.S.C. 102(b) as being anticipated by Tsukada et al. (US Pat. No. 6,129,980) has been rendered moot by the cancellation of this claim.

4. The rejection of claims 1-3, 7, 8, and 10-17 under 35 U.S.C. 102(b) as being anticipated by Tsukada et al. (US Pat. No. 6,129,980) stands – *please note the new citation with respect to the perfluoroolefin copolymer.*

*Regarding claims 1-3, 7, 8, and 10-17, Tsukada et al. disclose: (1) an anti-reflection film that is an optical film (Abstract; column 19, lines 25-58), comprising at least, a hard coat layer (Abstract; column 21, line 23 through column 22, line 30), and a low-refractive index layer containing a binder polymer (Abstract; column 2, lines 23-36; column 11, line 21 through column 12, line 33), on a transparent support (Abstract; column 19, lines 26-35), wherein said binder polymer in the low-refractive-index layer is a fluorine-containing polymer that is a perfluoroolefin copolymer (column 11, line 21 through column 12, line 33); wherein said hard coat layer and/or said low-refractive index layer contains:*

(a) a hydrolysate of an organosilane in which a hydroxyl group or a hydrolysable group is directly bonded to silicon, and/or a partial condensation product thereof (column 2, lines 60-65; column 21, lines 54-64); and

(b) at least one metal chelate compound of an alcohol represented by formula  $R^3OH$ , in which  $R^3$  represents an alkyl group having 1 to 10 carbon atoms, and a compound represented by formula  $R^4COCH_2COR^5$ , in which  $R^4$  represents an alkyl group having 1 to 10 carbon atoms, and  $R^5$  represents an alkyl group having 1 to 10 carbon atoms or an alkoxy group having 1 to 10

Art Unit: 1712

carbon atoms, as ligands, and a metal selected from the group consisting of Zr, Ti and Al, as a central metal (column 14, line 48 through column 15, line 42; column 22, lines 5-30);

(2) wherein said hard coat layer contains an inorganic filler composed of an oxide of at least one element selected from the group consisting of zirconium, titanium, aluminum, indium, zinc, tin, antimony and silicon (column 21, lines 41-53 and 65-67);

(3) wherein said low-refractive-index layer contains an inorganic filler selected from silica and magnesium fluoride (column 16, line 55);

(7) wherein said organosilane of (a) the hydrolysate of an organosilane, in which a hydroxyl group or a hydrolysable group is directly bonded to silicon, and/or the partial condensation product thereof, is an organosilane represented by formula (A):



in which  $\text{R}^{10}$  represents a substituted or unsubstituted alkyl or aryl group X represents a hydroxyl group or a hydrolysable group,  $m1$  represents an integer of 0 to 3; and  $n1$  represents an integer of 1 to 4, in which the total of  $m1$  and  $n1$  is 4 (column 2, line 60 through column 3, line 56; column 21, lines 54-64); (8) wherein the  $\text{R}^{10}$  of said organosilane in formula (A) is a group containing an epoxy group or a (meth)acryloyl group (column 2, line 60 through column 3, line 56; column 21, lines 54-64);

(10) wherein said binder polymer in the low-refractive-index layer is a fluorine-containing polymer that has a recurring unit containing a radical polymerizing group or a cation ring-opening polymerizing group at a side chain of said fluorine-containing polymer (column 4, line 42 through column 10, line 10);

Art Unit: 1712

(11) a method of producing an anti-reflection film according to claim 1, comprising: at least, coating a hard coat layer and a low-refractive-index layer containing a binder polymer, on a transparent substrate (column 19, lines 25-57), wherein a coating solution of said hard coat layer and/or a coating solution of said low-refractive-index layer comprises: the hydrolysate of said organosilane and/or the partial condensation product thereof (column 2, lines 60-65; column 21, lines 54-64); the metal compound represented by (b) (column 14, line 48 through column 15, line 42; column 22, lines 5-30); and (c) a beta-diketone compound and/or a beta-ketoester compound represented by formula  $R^4COCH_2COR^5$ , in which  $R^4$  and  $R^5$  each have the same meanings as those in (b) (column 16, lines 5-33);

(13) a polarizing plate, comprising a polarizing layer and two sheets of protective films of the polarizing layer, wherein at least one of said protective films comprises the anti-reflection film produced by the method according to claim 11 (column 22, lines 51-67); (17) a display device, having the polarizing plate according to claim 13, wherein the low-refractive layer is arranged on the viewer side (column 22, lines 51-67);

(15) a display device, having the polarizing plate according to claim 11, wherein the low-refractive layer is arranged on the viewer side (column 22, lines 51-67);

(12) a polarizing plate, comprising a polarizing layer and two sheets of protective films of the polarizing layer, wherein at least one of said protective films comprises the anti-reflection film produced by the method according to claim 1 (column 22, lines 51-67); (16) a display device, having the polarizing plate according to claim 12, wherein the low-refractive layer is arranged on the viewer side (column 22, lines 51-67); and

Art Unit: 1712

(14) a display device, having the polarizing plate according to claim 1, wherein the low-refractive-layer is arranged on the viewer side (column 22, lines 51-67).

***Claim Rejections - 35 USC § 102/103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 4 and 5 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Tsukada et al. (US Pat. No. 6,129,980).

Regarding claims 4 and 5, Tsukada et al. do not explicitly disclose: (4) wherein at the surface on said low-refractive-index layer side, a coefficient of dynamic friction is in the range of 0.03 to 0.15, and a contact angle to water is in the range of 90 to 120°; and (5) wherein a surface energy of said hard coat layer is in the range of 25 mN-m<sup>-1</sup> to 70 mN-m<sup>-1</sup>.

However, it appears that these properties would have been inherent in the low-refractive-layer and hard coat layers of Tsukada et al. because Tsukada et al. use the same materials as those set forth in the instant invention. Furthermore, it has been found that, "Products of identical chemical composition can not have mutually exclusive properties." A chemical composition and its properties are inseparable. Therefore, if the prior art teaches the identical chemical structure, the properties applicant discloses and/or claims are necessarily present. *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990).

Art Unit: 1712

Therefore, if not explicitly disclosed in Tsukada et al., the limitations of claims 4 and 5 would have been inherently present in Tsukada et al. because they use the same materials as those set forth in the instant invention.

7. The rejection of claims 18-19 under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over You et al. (US Pat. No. 6,852,367) has been rendered moot by the cancellation of these claims.

***Claim Rejections - 35 USC § 103***

8. The rejection of claim 20 under 35 U.S.C. 103(a) as being unpatentable over Tsukada et al. (US Pat. No. 6,129,980) in view of You et al. (US Pat. No. 6,852,367) has been rendered by the cancellation of this claim.

***Response to Arguments***

9. Applicant's arguments filed August 24, 2005 have been fully considered; however, they are moot due to the new grounds of rejection.

Tsukada et al. disclose that, "The composition for the low refractive index layer can further comprise (d) particles of a fluorine-containing polymer," (*see column 11, lines 21-24*) wherein these polymer particles include copolymers of perfluoroolefins (*see column 11, line 31 through column 12, line 33*). Although this component (f) is a solid polymer at the time of mixing, the coating conditions enable it to exist as a "binder" in the final product – *see column 19, lines 11-18*.



***Conclusion***

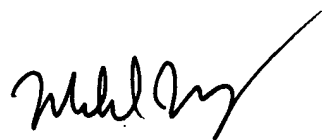
10. Yamada et al. (US Pat. No. 6,051,665) teach a low-refractive-index coating that corresponds to the low-refractive-index layer set forth in the instant claims; however, there is no motivation to incorporate the low-refractive-index coating of Yamada et al. into a *multi-layer* anti-reflection featuring at least a substrate, a *hard coat layer*, and said low-refractive-index coating.

***Communication***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J. Feely whose telephone number is 571-272-1086. The examiner can normally be reached on M-F 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on 571-272-1302. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Michael J. Feely  
Primary Examiner  
Art Unit 1712

November 12, 2005

**MICHAEL FEELY  
PRIMARY EXAMINER**